What we know and don't know about mental health problems among immigrants in Norway

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Running head: Mental health problems among immigrants

Abstract

Aims: Mental health problems have been regarded as one of the main public health challenges of immigrants in several countries. Understanding and generating research-based knowledge on immigrant health problems is highly relevant for planning preventive interventions, as well as guiding social and policy actions. This review aims to map the available knowledge on immigrants' mental health status and its associated risk factors in Norway.

Methods: The reviewed literature about mental health problems among immigrant populations in Norway was found through databases, such as PUBMED, EMBASE, PsychINFO and MEDLINE. About 41 peer-reviewed original articles published since 1990s were included.

***Results*:** In the majority of the studies, the immigrant populations, specifically adult immigrants from low and middle income countries, have been found with a higher degree of mental health problems compared to Norwegians and the general population. Increased risk for mental illness is primarily linked to a higher risk for acculturative stress, poor social support, deprived socioeconomic conditions, multiple negative life events, experiences of discrimination and traumatic pre-migration experiences. However, research in this field has been confronted by a number of gaps and methodological challenges.

Conclusions: The available knowledge indicates a need for preventive interventions. Correspondingly, it strongly recommends a comprehensive research program that addresses gaps and methodological challenges.

Background

Mental health disorders make an independent contribution to the burden of diseases worldwide, and are an important cause of long-term disability. Mental health disorders are also linked to the development of a number of communicable and non-communicable diseases, and contribute to both accidental and non-accidental injuries (1).

The relationship between migration and mental health has been the subject of studies for several decades and is considered a public health challenge in many countries. Research in the field of migration and mental health has been difficult and contradictory findings are abundant (2;3). In most studies, immigrants and their descendents have been found to be at greater risk for developing mental illness than mainstream populations (2;3). Nevertheless, the prevalence of mental health problems has not consistently been found to be elevated among immigrants in general. There are also studies reporting lower levels of mental health problems among immigrants than among host populations; for example, some studies on immigrants of Hispanic ethnic origin in the US (4) and South Asians in the UK (5) reported lower rates of psychological distress compared to the mainstream population. Mental health outcomes associated with migration may therefore vary depending on factors such as socio-cultural and economic contexts, gender, generation, acculturation or social integration, and the conditions and reasons under which migration takes place.

The results of mental health studies among immigrant populations in Norway have not been reviewed until now. This research review aims to map the available knowledge on immigrants' mental health status and its associated risk factors in Norway, and to identify lessons from and knowledge gaps of studies.

Methods

We searched relevant publications through the core databases such as PUBMED, EMBASE, PsychINFO and MEDLINE. The search was based on: [mental health] AND [Norway] AND [immigrant OR immigration OR ethnicity OR ethnic minority OR migrant OR migration]. The concepts of ethnicity and ethnic minority were included in the search in order not to miss immigrant studies because of other concept use. In addition, we scanned the references of identified publications and searched authors' own personal webpages. We included almost all original studies, published since 1990s in English and Norwegian that primarily reported mental health problems and associated risk factors in immigrant populations and their descendents in Norway. Our intent was not to exclude studies based on strict scientific criteria, or to perform a traditional quality assessment, but rather to include as many relevant studies that could enable us to get an overview of the mental health status of immigrants. The detailed methodology and summary of each study can be referred from the published report[1].

Immigrants are defined as being born abroad by two foreign-born parents, and registered as residents in Norway ("first-generation immigrants"). Norwegian-born to immigrant parents is defined as those born in Norway with two immigrant parents (before 2000, they were called "second-generation immigrants"). These two groups are being defined as immigrant populations in Norway. [2]

[1]http://www.nakmi.no/Details.asp?article=Public+Health+Challenges+of+Immigrants+in+Norway%3A+A+Research+Review&aid=22

[2] http://www.ssb.no/innvandring/

Results

Out of 62 peer-reviewed published articles and brief communications on immigrant mental health, we mainly focused on original articles that reported prevalence and/or associated risk factors for mental health problems among immigrants in Norway. The articles were published between 1990 and 2009. The design of studies is mainly cross-sectional, while three of the studies have longitudinal design with population- and school-based approaches. Thirteen of the studies addressed adolescent mental health problems and the rest are on adult immigrants. The main measured outcomes include psychological adaptation, anxiety, depression, psychological distress, hyperactivity and conduct problems. Summary of these articles are presented in Table I.

Adolescent mental health

The adolescent studies are ambiguous as to whether adolescent immigrants have more mental health problems compared to adolescent Norwegians. However, most studies report higher levels of mental health problems, such as depressive symptoms, emotional symptoms, mental distress, conduct problems, and peer problems among adolescent immigrants, particularly among girls, than among adolescent Norwegians (6-13) (see Table I). Factors linked to these increased levels of mental health problems most notably include a higher risk for acculturative stress (6;10), high levels of perceived discrimination and identity crisis (10;13), parental war experience (7) and the occurrence of several acute infections (8) (see Table II).

On the other hand, three studies reported a small difference or even better mental health status in adolescent immigrants as compared to Norwegian adolescents (9;14;15); for instance, a recent study among second-generation Vietnamese children (4-18 years old) surprisingly demonstrated a better mental health status of Vietnamese children as compared to their Norwegian peers (15). Possible protective factors for Vietnamese children are seen to be a strong family structure that is

conscious of a tradition and value system, and the parent's influence regarding adolescent socialization and externalizing behaviors (15).

Gender represents a significant factor in the variation and level of mental health problems among adolescents. Immigrant girls reported more depressive symptoms (6), internalized mental health problems (9) and poorer psychological adaptation (14) than did immigrant boys and Norwegian adolescents, but immigrant boys reported increased conduct problems than did immigrant girls (16). In contrast, another study found no gender differences in the level of psychological distress among immigrant adolescents as well as a non- significant difference between immigrant girls and ethnic Norwegian girls (17).

The specific generation, whether adolescents are first-generation immigrants or second-generation immigrants, has been mentioned as one of the moderators of mental health status. As for the association between generations and mental health status, there is conflicting evidence. Studies reported that first- versus second-generation immigrants did not differ significantly in their scores of depressive symptoms (6) and psychological distress (17). Similarly, second-generation immigrant youth in Oslo reported significantly fewer emotional and peer problems than first-generation youth (10). However, when the effect of gender was taken into account in the later study, first-generation girls and second-generation boys appeared to be more vulnerable to mental health problems as compared to second-generation girls and first-generation boys, respectively (10).

Adult mental health

Unlike the studies conducted among adolescents, the prevalence of mental health problems is consistently reported to be higher among adult immigrants (30-60 years-old) compared to adult Norwegians and the general population (19-23). As to the proportion of psychological distress

among immigrants from different regions, the highest was found among immigrants from the Middle-East (39%), and the lowest among South-Asian immigrants (18.9%) (22). Still, there was no significant difference between immigrants from high-income countries and Norwegians (19). While mental health problems are common in non-Western immigrant populations, we do not know whether these problems are becoming more common over time or whether they have a higher or lower risk compared to native populations in their countries of origin.

In Norway, the mental health status of refugees, specifically Vietnamese and Bosnian refugees, has been highly investigated from a longitudinal perspective (24-27). These studies reported that psychological disorders were prevalent in refugees (24-27). The effect of traumatic experiences for refugees was found to be long-lasting (26). In general, refugees may be expected to have experienced more negative life events and extreme traumatic stress, such as war, violence and torture, thereby increasing their vulnerability to mental health problems.

In general, immigrant women appeared with a higher risk for mental health problems compared to immigrant men (19;20;22;26), but the gender difference varied according to the groups being compared and the geographic origin of immigrants. For example, a comparison of psychological distress between Western and Non-Western immigrants showed that the level of psychological distress was highest among men who had arrived to Norway most recently from Non-Western countries (20). Another study utilizing similar data, found no significant difference in terms of psychological distress between immigrants from low- and middle-income countries, but when specific geographical regions of origin were compared, women from Eastern Europe and the Middle East experienced significantly higher levels of distress than men from the same regions (22). As for age groups, only one study reported that women within higher age groups (59/60

years-old) scored significantly higher for psychological distress than younger age cohorts, i.e. 30 years and 40/45 years (22).

Studies have reported several risk factors contributing to a higher burden of mental health problems among adult immigrants [See Table II]. More specifically, reasons cited for why those from low- and middle-income countries had a higher risk of mental health problems included poor social support, deprived economic conditions, multiple negative life events, and past traumatic experiences (19;20;22;23;26;28). Originating from countries with higher rates of mental health problems could be another potential risk factor (20). Moreover, the pressure to adopt Norwegian language and customs may create stress and subsequent mental health problems, while also potentially providing positive effects in the long run (20).

Methodological issues

In the majority of reviewed studies (6-9,11,12,17,19,20,23,22), we found that immigrant populations have been portrayed as a homogenous population despite differences in ethnicity, culture and traditions, socioeconomic status, religious background, origin and reason for migration, generation and length of stay. These studies categorized immigrant populations based on geographical/economical regions such as South Asia, Eastern Europe, Sub-Saharan Africa, Western versus Non-Western and immigrants from high- versus low-income countries (see Table I). In addition to the ethnic lumping, adolescent studies have also combined both first and second generation adolescents. Studies have been challenged with a low response rate and small sample size, and questionnaires have not been validated for cross-cultural use. Only a few studies adopted a prospective, longitudinal design (11, 24-27). Moreover, since most of the risk factors in Table 2 were identified from cross-sectional studies, it could be challenging to draw inferences about the direction of associations or causality.

Discussion

The review of studies can partially conclude that immigrants in Norway have a higher burden and greater risk for mental health problems than Norwegians in the general population. This higher risk, specifically among adult immigrants from low-income counties (Non-Western countries), is primarily associated with social and economic deprivation (19;23), negative life events both at pre- and post-migration periods (19;22;23;26), and lack of social support (19;21;26). Moreover, marginalization, discrimination in the housing sector and labor market are some of the factors that associate with mental health problems amongst immigrant populations (10;13; 22). This reflects that post-migration factors could have a role in moderating the mental health status of immigrants, in which preventive programs should be aimed to improve socioeconomic and social support status of immigrant populations.

In addition, pre-migration experiences are found to explain a higher burden of mental health problems in immigrant populations than the general population, particularly among refugees (24-27). Such experiences may also explain differences in mental health problems between immigrants and refugees, and between groups of immigrants, depending on the migration class, country of origin, and period of migration. Refugees who are forced to leave their country may have been directly exposed to war, human atrocities, and violence that may consequently lead to mental health problems. There is also considerable individual variation in the length of time and conditions of migration. While most immigrants and refugees come directly from country of origin to receiving country, however, others do not. Some are forced to spend months or even years in flight and migration, living in refugee camps or in intermediary countries which could expose them to different risk factors, such as infectious diseases, sexual violence, and ongoing

inter-ethnic violence. Future research should therefore consider these experiences to address mental health problems among immigrant populations.

Even though the studies did not show that adolescent immigrants are necessarily at higher risk of developing mental health problems than ethnic Norwegian adolescents, they are generally expected to have a greater risk for developing psychiatric disorders, most notably because of the stress related to the immigration process, a minority position in the host country and their multi-cultural background, all of which may contribute to the development of mental health problems. Depending on a number of factors, migrant youth may also experience a lower risk of mental health problems, known as the "healthy migrant effect". In this phenomenon, a selection of the fittest people, and a coherent and supportive family culture could protect them against the development of mental health problems. Such conflicting findings have also been reported in a review of mental health studies conducted among migrant youth in other Western countries (32). At this stage, drawing any conclusion is unsatisfactory, and it is important to conduct further follow up studies.

In both adult and adolescent studies, gender is a well established predictor for mental health problems. Pre-migration experiences of war or conflict, and a shift in the status and roles of men and women in the corresponding society, may explain the differences between men and women in terms of levels of distress. Furthermore, differences in the experience of social integration have been used as possible explanations for the gender differences in levels of distress. In men, a good social integration experience could create the opportunity for paid employment and better income, with the subsequent positive impacts on health (20;22). In contrast, social integration in immigrant women was found to increase psychological stress because the traditional role of women within their family can be challenged by cultural values that differ from their own

(20;22). Also, Dalgard et al. suggested that women's efforts to integrate into the Norwegian community could provoke negative reactions from men of their own ethnic groups, potentially leading to conflicts about socially acceptable norms and identity (20). Such suggestions to the effect of gender and social integration process and their effect on mental health need to be explored in further studies. Among adolescents, moreover, the extent to which mental health problems were reported explains gender differences, in which girls tend to internalize their psychological distress, while boys externalize it (6;14;17).

The age of immigrants is one of the important demographic variables that influence the efficiency and competence to learn and use a new language, to interact and socialize with a society and to cope with healthy or stressful environments. Most importantly, the age at which immigration takes place is a significant moderator in the relationship between social status and mental health: a study conducted among Asians in the US showed that those who arrived before the age of 25 years had inferior mental health status than those who came at or after age 25 years, despite greater educational gains and income (33). In Norway, there is a lack of data that could explain the association of mental health status in relation to current age and age at migration, including the relationship with social development and integration.

The specific generation in immigrant populations reflects the stages of immigration and adaptation, and the exposure towards social and environmental conditions in the settlement country. Despite the contradictory findings among the adolescent studies, first-generation adolescents seem to be at higher risk of mental health problems. This may be due to stress related to the process of immigration, both pre- and post-migration experiences, and socio-cultural adaptation for both themselves and their parents. A study conducted in five European countries found that second-generation immigrant youth (13-18-years-old) had better psychological

adaptation than first-generation immigrant youth, with the same level of adaptation compared to their peers (18). Still, there is a paucity of data to explain whether the acculturation or social integration process could be regarded as being protective or a risk factor for mental health problems. In addition, lengths of stay, reason for migration, socio-economic conditions and access to a social support system in the settlement country are some of the factors that may be considered as explanatory factors in research on the mental health of immigrants (2, 4, 31). In regard to these factors, however, there is a limited amount of information to explain and compare mental health problems among immigrants in Norway.

The methodological and conceptual challenge related to ethnic lumping may lead to information bias. In addition, bias may be expected to be common as a result of differing conceptions of mental health, health beliefs, and lack of cross-culturally validated questionnaires. These challenges have been repeatedly reported and remain contested in the debate about several immigrant health studies in other Western countries (29-31). Thus, future studies should address these challenges and adopt ethnicity based studies.

Conclusions and implications

Mental health promotion should thus be aimed towards immigrant populations, especially those from low-income countries. Preventive programs should be implemented with a comprehensive integration policy that focuses on social support systems and economic conditions, as well as addressing the special needs of age and gender. Conducting further studies is an urgent need and should meet the aforementioned methodological challenges and limitations. It is important to adopt a prospective and longitudinal design and to conduct a comparison with both the Norwegian and original population. Qualitative studies should also be conducted in order to explore migration-related factors and to develop culturally validated instruments. Additionally,

such studies should address the role and effect of age, gender and generation in social integration process and their effect on mental health, explore the association between mental health problems and somatic illness, mental health and ethnicity and develop culturally sensitive and validated instruments.

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1 Table I. Summary of main immigrant mental health studies in Norway

Author (s) and [Ref. No]	Sample	outcome measure	Instrument for measuring mental health problems	Design and analysis	Objective
Dalgard, O.S. et al., 2006 [19]	15,723 adults living in Oslo	Psychological distress	HSCL-25	Population-based, cross-sectional. ANOVA and multiple linear regression	To compare the level of psychological distress between Norwegian born and immigrants, and to investigate the explanatory factors
Dalgard, O.S. et al., 2007 [20]	15,899 adults living in Oslo: 1,448 immigrants from Non-Western and 1,059 immigrants from Western countries.	Psychological distress	HSCL-10	Population-based, cross-sectional. General linear model and multiple linear regression	To investigate the relationship between social integration and psychological distress
Fandrem, H. et al., 2009 [6]	3,431 native Norwegian and immigrant adolescents aged 13-15 years.	Depressive symptoms	6-item scale adopted from HSCL	School-based, cross-sectional. ANOVA.	To examine the role of socio-demographic factors on depressive symptoms
Hauff, E. and Vaglum, P.,1993, 1994, 1995 [24-26]	145 adult Vietnamese refugees.	Mental disorders, and post-traumatic stress syndrome	Symptom Checklist-90 R Global Assessment Scale	A 3-year, prospective, community cohort. Multiple linear and logistic regression	To study mental health status both during and after settlement
Lie, B, 2004 [27]	21 Bosnian refugees returning to Bosnia and 175 refugees remaining in exile in Norway.	Psychological and somatic symptoms	HSCL-25, PTSS-16 and HTQ	Longitudinal, comparative cohort. Chi-square and point-bi-serial correlation	To explore possible differences in the longitudinal course of psychological and somatic symptoms
Lien, L. et al., 2008 [9]	7,345 adolescents aged 15-16 years, 24% have immigrant backgrounds.	Mental health problems* and inflammatory conditions	HSCL-10 and SDQ	School-based, cross-sectional. Logistic regression	To describe the prevalence and investigate the association between mental health problems and inflammatory conditions
Lien, L. et al., 2007 [8]	7,343 adolescents aged 15-16 years, 24% have immigrant backgrounds.	Mental health problems* and acute infections	HSCL-10 and SDQ	School-based, cross-sectional. Logistic regression	To study the association between mental health problems, negative life events, perceived pressure at school and the frequency of acute infectious illnesses
Lien, L, et al., 2006 [7]	7,343 adolescents aged 15-16 years, 24% have immigrant backgrounds.	Mental health problems*	HSCL-10 and SDQ	School-based, cross-sectional. One-way ANOVA	To investigate differences in internalizing and externalizing mental health problems between adolescents exposed and not exposed to their own and parental war experience

Table I. continued.

Author(s) and [Ref. No]	Sample	Outcome measure	Instrument for measuring mental health problems	Design and analysis	Objective
Oppedal, B. et al., 2005 [10]	1,295 adolescents (10th grade) with 11 ethnic origins.	Psychiatric problems	SDQ	School-based, cross-sectional. ANOVA	To investigate the effects of ethnic origin and acculturation factors on psychiatric problems
Oppedal, B. et al., 2004 [17]	633 adolescents (8th grade) with different ethnic origins.	Psychological distress	HSCL-25	School-based, cross-sectional. ANOVA	To investigate differences in the level of mental health, life stress and social support among adolescents with immigrant and domestic backgrounds
Sagatun, A. et al., 2008 [11]	2,489 adolescents aged 15-18 years; 54% from ethnic minorities.	Mental health problems	HSCL-10 and SDQ	Longitudinal, one baseline and one follow up. MANOVA	To compare changes in self-reported mental health between adolescents with ethnic Norwegian and ethnic minority backgrounds
Sam, D.L. and Virta, E., 2003 [14]	574 adolescents with Pakistani, Vietnamese and Norwegians backgrounds	Psychological adaptation	15-items to measure depression, anxiety and psychosomatic symptoms	School-based, cross-sectional. ANOVA	To investigate the relationship between intergenerational value discrepancies and psychological adaption
Sam, D.L. et al.,2008 [18]	642 adolescents (13-18-year-old) with Pakistani, Turkish, Vietnamese and Norwegians backgrounds	Psychological adaptation	15-items to measure depression, anxiety and psychosomatic symptoms	School-based, cross-sectional. MANOVA	To explore immigrant paradox towards psychological adaptation
Syed, H.R. et al., 2006 [28]	13,581 Norwegian-born 339 ethnic Pakistanis (adults).	Psychological distress	HSCL-10	Population-based, cross-sectional. Logistic regression	To investigate the association between psychological distress and psychosocial factors among Pakistani immigrants and ethnic Norwegians
Sund, A.M., et al., 2003 [12]	2,465 adolescents(12-14-year-old):65 adolescents with immigrant backgrounds	Depressive symptoms	Mood and Feeling Questionnaire	School-based, cross-sectional. ANOVA/ANCOVA	To examine the relationship between psychosocial factors and depressive symptoms
Thapa, S.B. et al., 2007 [23]	2,246 adult immigrants from high- and low-income countries.	Psychological distress	HSCL-10	Population-based, cross-sectional. Logistic regression	To compare and explain psychological distress between immigrants from low- and high-income countries

Table I. continued.

Author(s) and [Ref. No]	Sample	Outcome measure	Instrument for measuring mental health problems	Design and analysis	Objective
Thapa, S.B. et al., 2005 [22]	1,536 adult immigrants from middle- and low-income countries.	Psychological distress	HSCL-10	Population-based, cross-sectional. Logistic regression	To compare and explain gender differences of psychological distress among immigrants from low- and middle-income countries
Vaage, A.B. et al., 2009 [15]	94 Norwegian-born children from Vietnamese refugees aged 4-18 years.	Mental health difficulties	SDQ	Cross-sectional from a longitudinal community cohort. Chi-square and t-test	To compare the mental health of Norwegian born children from Vietnamese refugees with that of Norwegians
Virta, E. et al., 2004 [13]	840 adolescents with Turkish, Swedish and Norwegian backgrounds.	Psychological adaptation	15-items to measure depression, anxiety and psychosomatic symptoms	Comparative school-based, cross-sectional. ANOVA	To assess the psychological adaptation of adolescents with a Turkish background in Norway and Sweden

* Anxiety, depression, hyperactivity and conduct problems

Keys: HSCL-Hopkins Symptom Check List, SDQ-Strength Difficulties Questionnaire, ANOVA-analysis of variance, MANOVA- Multivariate analysis of variance, PTSS-Post-Traumatic Stress Syndrome, HTQ- Harvard Trauma Questionnaire

Table II. Risk factors for mental health problems among immigrants in Norway[±]

Risk factors	**Ref. No.**	**Positive association with risk**	**Negative association with risk**
Female gender* and **	(26)	x	
Older age**	(22)	x	
Middle East background**	(22)	x	
Immigrants from low-income countries**	(19)	X	
Urbanization*	(6)	x	
Less annual family income(<200,000NOK)**	(19;23)	x	
Lacking a paid job or unemployment**	(19;23)	x	
Lack of a close confident* and **	(26)	x	
Chronic family separation * and **	(26)		
Experience of denial of housing**	(22)	x	
Experience of denial of job**	(22)	x	
Living without a partner**	(22)	x	
Parental war experience*	(7)	x	
High level of family values*	(10)		x
High level of host and ethnic cultural competence*	(10)		x
Conflict in intimate relationship**	(20)	x	
Negative life events** and *	(8;19;22;23;26)	x	
Experience of powerless**	(19;21)	x	
More marginalization*	(13)	x	
More perceived discrimination*	(10;13)	x	
Identity crisis*	(10;13)	x	
Lack of/poor social support**	(19;21)	x	
Visits made by Norwegians**	(22)		x
Having two or more acute infections*	(8)	x	
Past traumatic experience**	(22;26)	x	
Originating from countries with higher rates of mental health problems	(20)	x	

- *Adolescent samples, **Adult samples